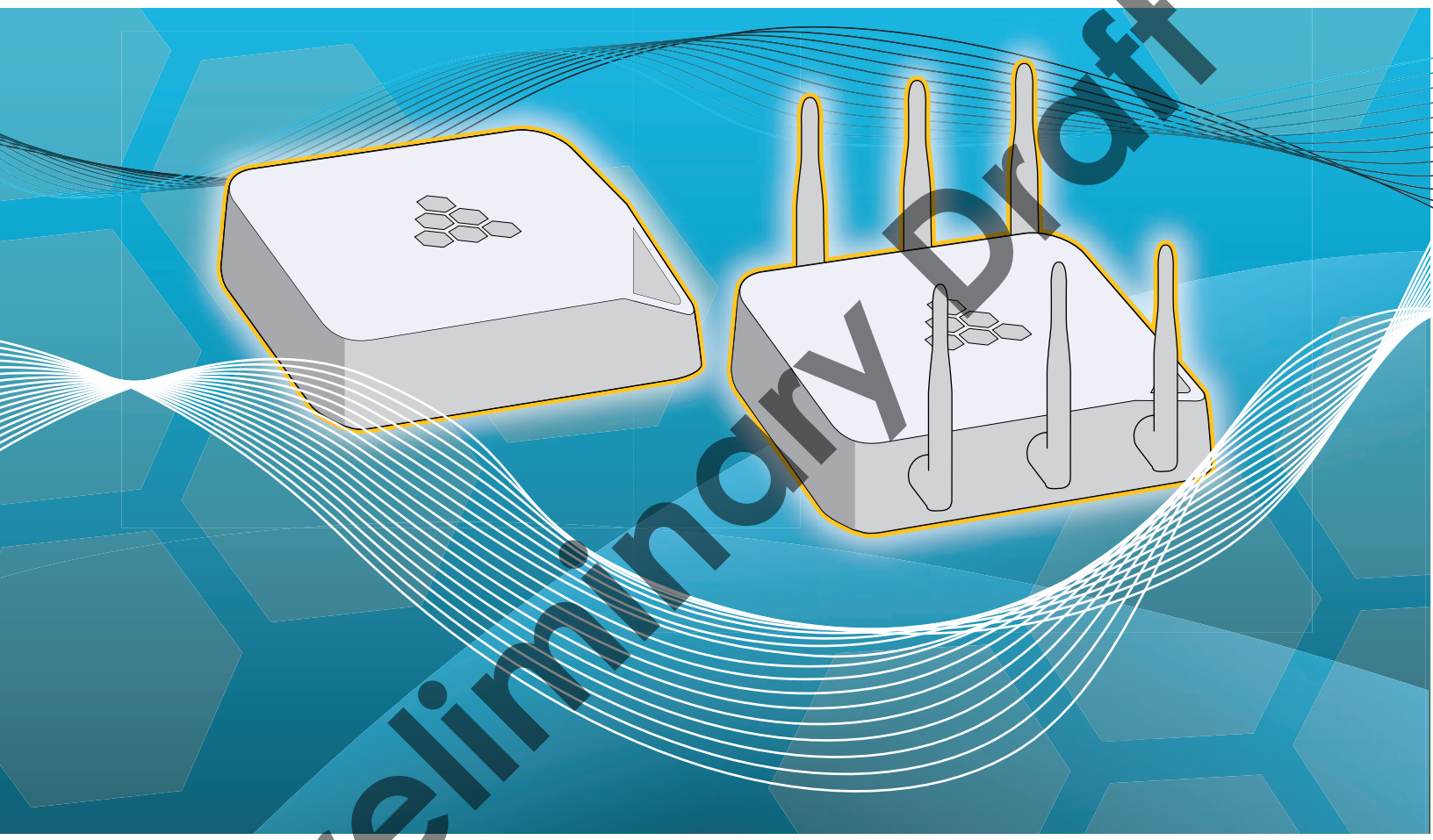
Aerohive AP230 User Guide



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Aerohive AP230 User Guide

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P/N 330112-01, Rev. A

About This Guide

This guide describes Aerohive AP230 devices, including component descriptions, installation and mounting instructions, wiring diagrams, and hardware specifications.

Contents

Aerohive AP230

The AP230 wireless access point provides dual concurrent 802.11b/g/n and 802.11a/n/ac radios for 3x3:3 MIMO (Multiple Input Multiple Output) antenna configurations. When you enable 802.11ac high-throughput options such as wide-channel mode (80-MHz channels), A-MPDU and A-MSDU packet aggregation, short guard interval, 256 QAM modulation, and MCS15 data rates, the AP230 can provide a PHY data rate up to 1.3 Gbps per radio. These devices have built-in mounting hardware that allows you to install them on a ceiling track or a wall. This guide covers the following topics relating to the AP230:

AP230 Product Overview

The AP230 is a dual-radio, dual-band concurrent access point with a 2.4 GHz 802.11b/g/n radio with TurboQAM and a 5 GHz 802.11a/n/ac radio with transmit beamforming. Both radios also support Frame Burst mode. The AP230 supports three 802.11 b/g/n MIMO streams and three 802.11ac/a/n MIMO streams simultaneously. The AP230 can provide data rates up to 450 Mbps in the 2.4 GHz 802.11n/g mode, up to 600 Mbps in the 2.4 GHz 802.11n mode with TurboQAM enabled, and 1.3 Gbps in the 5 GHz 802.11ac mode. Both radios also support legacy 802.11a/b/g wireless. The AP230 has two 10/100/1000 Mbps Ethernet ports. These devices provide multi-function capabilities including high throughput and strong security.

Shipping Carton Contents

The AP230 shipping carton contains the following items:

- Aerohive AP230 device (model number AH-AP230) - Chinese product name: (無線存取點)
- QuickStart Guide
- Compliance document
- 4 adhesive feet
- Security bracket
- Diagonal mount bracket
- Hardware: 2 cross-head screws, 2 security screws, and 2 wall mount screws with anchors

Hardware Components

You can see the hardware components in Figure 1 and read descriptions in Table 1 "AP230 hardware components" on page 4..

To meet federal radiation exposure requirements, these devices should be installed at a minimum distance of 9.05" (23 cm) from your body.

Figure 1 AP230 Hardware components

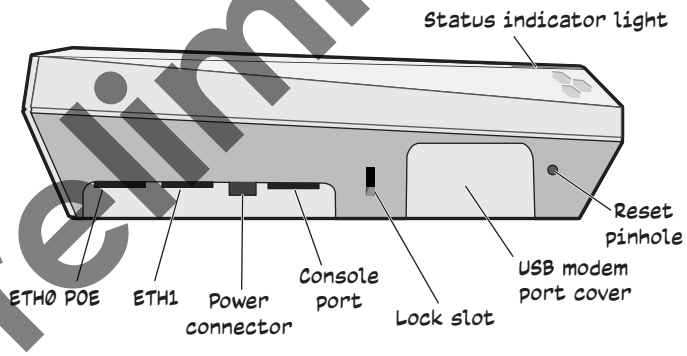


Table 1 AP230 hardware components

Component	Description
Status light	The status light indicates operational states for system power, firmware updates, Ethernet and wireless interface activity, and major alarms. See "Antennas" on page 10.
Console port	You can access the CLI by making a serial connection to the RJ45 Console port. See "Console Port" on page 9.

Table 1 AP230 hardware components (Continued)

Component	Description
Power connector	There are two ways to power an AP230. You can connect a device to a 100 – 240-volt AC power source by connecting an AC/DC power adapter (available as an option) to the 12 V (1.1A) DC connector. You can also power the device through the ETH0 port from PSE (power sourcing equipment) that is compatible with the 802.3af and 802.3at standards. Because there is no on/off switch, these devices automatically power on when you connect them to power.
ETH0 10/100/1000 Mbps ports	The 10/100/1000-Mbps RJ45 Ethernet ports—ETH0 and ETH1—are compatible with 10/100/1000Base-T/TX and automatically negotiate half- and full-duplex connections with the connecting device. These ports are autosensing and adjust to straight-through and crossover Ethernet cables automatically. The ETH0 port is PoE-capable. See "Ethernet Ports" on page 5.
Reset button	The Reset button allows you to reboot the device or reset it to its factory default settings. See "Reset Button" on page 10.
USB port	The Type-A USB 2.0 port (backward compatible with USB1.1) allows you to connect a wireless 3G/4G USB modem to serve as a backup WAN connection. See "USB Modem Port" on page 9
Security tab cavity, security screw and device lock slot	When mounting the AP on a ceiling track or flat surface, you can secure it to the track using the security screw and bracket that ships with the device. You can also physically secure the AP by attaching a lock (such as a Kensington® notebook lock) and cable to the device slot. See "Locking the AP230" on page 12.

Status Light

The AP230 has a rectangular status light bar on the top corner and down one side of the chassis. The colors of this light bar indicate the following states of activity:

- **Dark**: There is no power or the status indicator is disabled.
- **Amber** (flashing): This is an alert that indicates that the device is performing a firmware upgrade. Do not power off the device during this process.
- **Amber** (steady): This is an alert that indicates that the CAPWAP connection has not been successfully established, or the device is booting or shutting down.
- **White**: The device is powered on, a successful CAPWAP connection has been made, and the firmware is operating normally.

Ethernet Ports

AP230 devices have two RJ45 10/100/1000 Base-T/TX Ethernet ports (Eth0 and Eth1) that automatically negotiate half- and full-duplex connections with the connecting device. The ports are autosensing and adjust to straight-through and crossover standard cat3, cat5, cat5e, or cat6 Ethernet cables automatically. The AP can receive power through an Ethernet connection to the ETH0 port from PSE (power sourcing equipment) that is compatible with the 802.3af standard. Such equipment can be embedded in a switch or router, or it can come from purpose-built devices that inject power into the Ethernet line en route to the AP. Because the PoE port has autosensing capabilities, the wiring termination in the Ethernet cable can be either straight-through or crossover.

The pin assignments in the Ethernet ports follow the TIA/EIA-568-B standard (see Figure 2 on page 7). The ports accept standard types of Ethernet cable—cat3, cat5, cat5e, or cat6. Because the ports have autosensing capabilities, the wiring termination in the Ethernet cable can be either straight-through or cross-over.

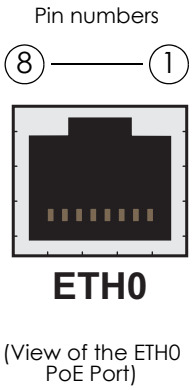
Aerohive provides the following PoE injectors as an optional accessory:

- AH-ACC-INJ-20W-EU
- AH-ACC-INJ-20W-US
- AH-ACC-INJ-20W-AU
- AH-ACC-INJ-20W-IL

If an AP is connected to both an AC power source and PSE, the AC power source takes priority. If the device loses power from that source, it automatically switches to PoE. If the AC power comes back online, the AP automatically switches back to AC.

Each time the AP switches from one power source to another, it must reboot.

Figure 2 PoE wire usage and pin assignments

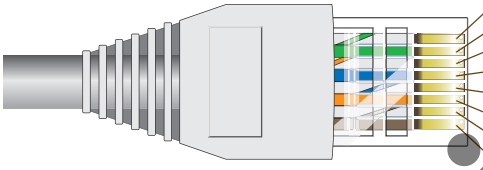


		802.3af Alternative A (data and power on the same wires)		802.3af Alternative B (data and power on separate wires)	802.3at wring options			
Pin	Data Signal	MDI	MDI-X	MDI or MDI-X	1	2	3	4
1	Transmit +	DC+	DC–	– – –	DC1+	DC1–	DC1+	DC1–
2	Transmit -	DC+	DC–	– – –	DC1+	DC1–	DC1+	DC1–
3	Receive +	DC–	DC+	– – –	DC1–	DC1+	DC1–	DC1+
4	(unused)	– – –	– – –	DC+	DC2+	DC2+	DC2–	DC2–
5	(unused)	– – –	– – –	DC+	DC2+	DC2+	DC2–	DC2–
6	Receive -	DC–	DC+	– – –	DC1–	DC1+	DC1–	DC1+
7	(unused)	– – –	– – –	DC–	DC2–	DC2–	DC2+	DC2+
8	(unused)	– – –	– – –	DC–	DC2–	DC2–	DC2+	DC2+

MDI = Medium dependent interface for straight-through connections
MDI-X = Medium dependent interface for cross-over (X) connections

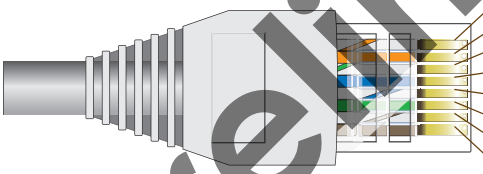
The ETH0 PoE port is auto-sensing and can automatically adjust to transmit and receive data over straight-through or cross-over Ethernet connections. Likewise, it can automatically adjust to 802.3af Alternative A and B power delivery methods. Furthermore, when the Alternative A method is used, the port automatically allows for polarity reversals depending on their role as either MDI or MDI-X. In 802.3at, the 1/2 and 3/6 wire pairs connect to DC source 1 and 4/5 and 7/8 pairs to DC source 2 in PSE. Although the exact polarity depends on the PSE design, the ETH0 PoE port can support all possible options.

T568A-terminated Ethernet cable with an RJ45



Pin	T568A Wire Color
1	White/Green
2	Green
3	White/Orange
4	Blue
5	White/Blue
6	Orange
7	White/Brown
8	Brown

T568B-terminated Ethernet cable with an RJ45



Pin	T568B Wire Color
1	White/Orange
2	Orange
3	White/Green
4	Blue
5	White/Blue
6	Green
7	White/Brown
8	Brown

T568A and T568B are two standard wiring termination schemes. Note that the only difference between them is that the white/green + solid green pair of wires and the white/orange + solid orange pair are reversed.

For straight-through Ethernet cables—using either the T568A or T568B standard—the eight wires terminate at the same pins on each end.

For cross-over Ethernet cables, the wires terminate at one end according to the T568A standard and at the other

The ETH0 port can receive PoE through an Ethernet cable connected to PSE that is 802.3af- or 802.3at-compatible. Such equipment can be embedded in a switch or router, or it can come from purpose-built devices that inject power into the Ethernet line en route to the AP. Aerohive provides several PoE injectors as accessories that you can order: AH-ACC-INJ-30W-EU, AH-ACC-INJ-30W-UK, AH-ACC-INJ-30W-US, AH-ACC-INJ-30W-AU, and AH-ACC-INJ-30W-IL. If an Aerohive AP is connected to both an AC power source and PSE, the AC power source takes priority. If the device loses power from that source, it automatically switches to PoE. If the AC power comes back online, the AP automatically switches back to AC. Each time the AP switches from one power source to another, it must reboot.

The two Ethernet interfaces can be configured as aggregate interfaces for increased throughput and redundant interfaces for increased reliability. For more information, see "Aggregate and Redundant Interfaces" on page 8.

Through the RJ45 console port, you can make a serial connection between your management system and the AP. The pin-to-signal mapping of the RJ45 console port is shown in Figure 2 on page 7.

Aggregate and Redundant Interfaces

By default ETH0 and ETH1 act as two individual Ethernet interfaces. When both interfaces are connected to the network and are in backhaul mode, the AP transmits broadcast traffic only through ETH0. The AP transmits broadcast traffic through ETH1 only when ETH0 does not have network connectivity. When both Ethernet interfaces are connected to the network and are in access mode, then the AP transmits broadcast traffic through all the access interfaces: ETH0, ETH1, and all wireless subinterfaces in access mode.

In addition to using ETH0 and ETH1 as individual interfaces, you can combine them into an aggregate interface (agg0) to increase throughput, or combine them into a redundant interface (red0) to increase reliability. The logical red0 and agg0 interfaces support all the settings that you can configure for Ethernet interfaces except those pertaining to physical link characteristics such as link speed. See the sections below for configuration information.

Aggregate Interface

You can increase throughput onto the wired network by combining ETH0 and ETH1 into a single logically aggregated interface called "agg0". The aggregate interface effectively doubles the bandwidth that each physical interface has when used individually. In this configuration, both Ethernet ports actively forward traffic, the AP applying an internal scheduling mechanism based on the source MAC address of each packet to send traffic through the aggregate member interfaces. To configure an aggregate interface, enter the following commands:

```
interface eth0 bind agg0
interface eth1 bind agg0
```

In addition to configuring the AP, you must also configure the connecting switch to support EtherChannel. For example, the following commands bind two physical Ethernet ports—0/1 and 0/2—to the logical interface port-channel group 1 on a Cisco Catalyst 2900 switch running Cisco IOS 12.2:

```
Switch#conf t
Switch(config)#interface port-channel 1
Switch(config-if)#switchport mode access
Switch(config-if)#spanning-tree portfast
Switch(config-if)#exit
Switch(config)#interface fastEthernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#channel-group 1 mode on
Switch(config-if)#spanning-tree portfast
Switch(config-if)#exit
Switch(config)#int fastEthernet 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#channel-group 1 mode on
Switch(config-if)#spanning-tree portfast
Switch(config-if)#exit
Switch(config)#exit
Switch#wr mem
```

Finally, you must cable the Cisco switch and the AP together: Cisco 0/1 to AP eth0, and Cisco 0/2 to AP eth1.

Redundant Interface

If a single Ethernet link provides sufficient bandwidth and speed, such as a 1000 Mbps link, but you want to ensure link redundancy, you can connect the two Ethernet ports to the same switch—or to two different switches—and configure them to act as a redundant interface called "red0". In this mode, only one Ethernet interface is actively forwarding traffic at any one time. If eth0 is active and eth1 is passive and eth0 loses its connection, the AP switches over to eth1. To configure a redundant interface, enter the following commands:

```
interface eth0 bind red0 primary
interface eth1 bind red0
```

The interface that you specify as primary is the one that the AP uses when both interfaces have network connectivity. Because the AP uses eth0 as the primary interface by default, it is unnecessary to specify "primary" in the first command above. However, it is included to make the role of eth0 as the primary interface obvious.

No extra configuration is necessary on the connecting switch or switches to support a redundant interface.

Interface Selection for the Default Route

In cases where there are multiple active interfaces in backhaul mode, the AP uses the following logic to choose which interface to use in its default route:

- If there is an Ethernet interface and a wireless interface in backhaul mode, the AP uses the Ethernet interface in its default route.
- If there are multiple Ethernet interfaces in backhaul mode, the AP chooses which one to use in its default route in the following order:
  - It uses red0 or agg0 if either has at least one member interface bound to it and its link state is UP.
  - It uses ETH0 if neither red0 nor agg0 has any member interfaces and the link state for ETH0 is UP.
  - It uses ETH1 if neither red0 nor agg0 has any member interfaces, the link state for ETH0 is DOWN, and the link state for ETH1 is UP.

Console Port

Through the Console port, you can make a serial connection between your management system and the AP. When you connect to the device using the RJ45 Console port, the management station from which you connect to the device must have a VT100 emulation program, such as Tera Term Pro© (a free terminal emulator) or Hilgraeve HyperTerminal® (provided with Windows® operating systems from XP forward). The serial connection settings are: 9600 bits per second, 8 data bits, no parity, 1 stop bit, no flow control.

USB Modem Port

The USB modem port (backward compatible with USB1.1) allows you to connect a wireless 3G/4G USB modem to serve as a backup WAN connection. The port is protected by a port cover. To access the port, remove the screw on the bottom of the unit that secures the cover in place. To protect the port, keep the cover in place when the port is not in use. For additional security, when you are not using the port, you can secure it with one of the security screws that ship with the device.

If you use the security screw, you will need a spanner insert bit for size #6 security screws and a driver handle that will accept the bit. These bits are available from Aerohive in sets of three for AP121, AP141, AP230, AP330, AP350, AP370, and AP390 models (AH-ACC-SEC-BIT-330-AP350-3PK).

Reset Button

You can reset the device or restore the factory default settings using the *Reset* button. Insert a paper clip or similar tool into the *Reset* pinhole and press the button. To reboot the device, press the button for 5 seconds. To return the configuration to the factory default settings, press it for at least 10 seconds. After releasing the button, the indicator light goes dark, and then glows steady amber while the firmware loads and the system performs a self-test. After the software finishes loading and the AP has connected to HiveManager, the status indicator glows steady white.

To disable the Reset button from resetting the configuration, enter this command: **`no reset-button reset-config-enable`**. When this command is enabled, pressing the button for 5 seconds will still reboot the AP, but pressing it for more than 10 seconds will not reset its configuration.

Antennas

The AP230 has six internal single-band antennas. The 2.4 GHz band antennas (IEEE 802.11a/b/g/n) have a 2-5 dBi gain. The 5 GHz antennas (IEEE 802.11a/b/g/n/ac) have a 3-6 dBi gain. All antennas are omnidirectional and provide fairly equal coverage in all directions.

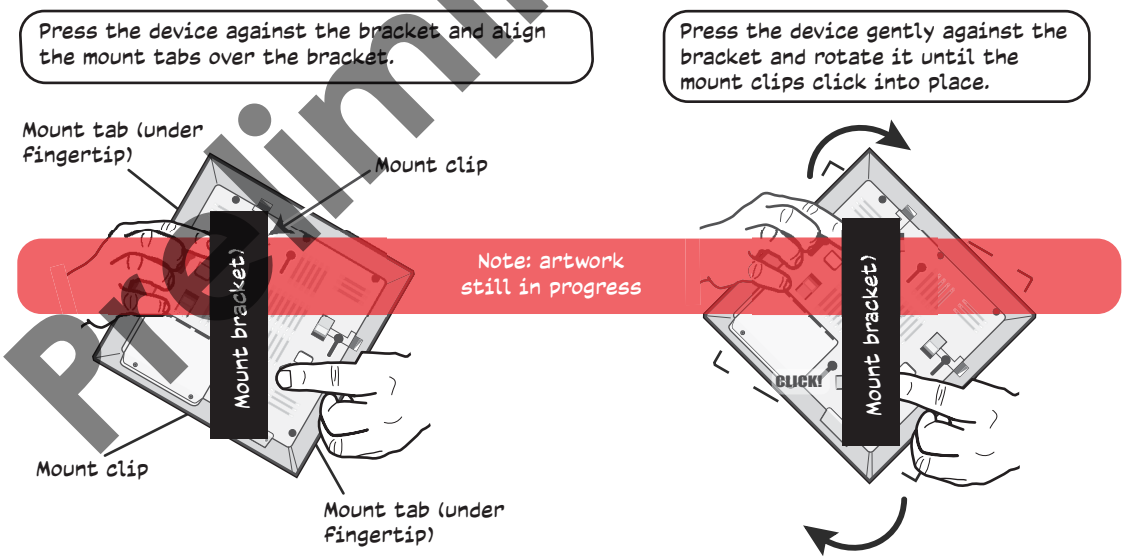
Mounting the AP230

You can mount the AP230 on a flat surface using the adhesive rubber feet that ship with the device. You can also mount these devices on a wall or to the tracks of a dropped ceiling grid. The following sections describe these installation methods.

Wall Mount

You can use the diagonal mount bracket to attach the AP to any vertical surface that supports its weight and to which you can install wall mount screws. Use the following steps to mount your AP on a wall.

1. Attach the diagonal mount bracket to the wall using two wall mount screws and the holes in the bracket. Make sure that the underside of the bracket (the side without the Aerohive log is facing out.)
2. Attach AP to the diagonal mount bracket as shown in the following illustration:



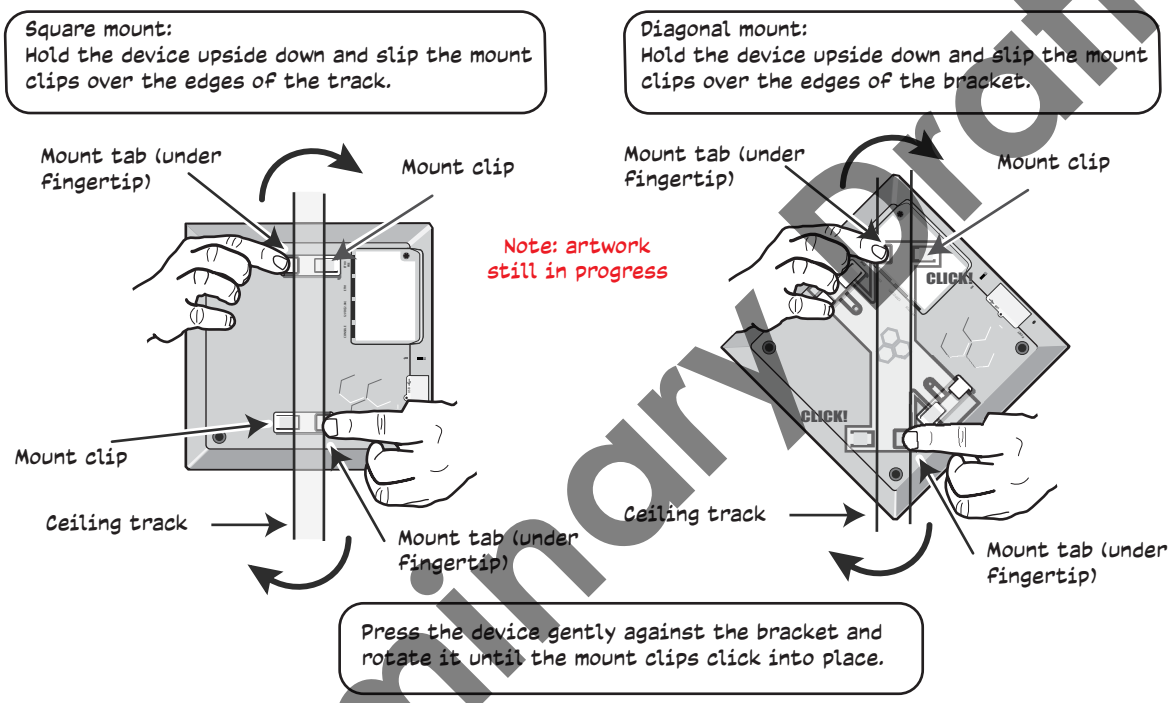
Note: wall not shown for clarity.

3. To remove the AP from the wall, insert a flat-blade screwdriver behind the AP and depress the spring tab on the bracket.

Ceiling Mount Options

You can mount the AP230 in either a square or diagonal mount on a dropped ceiling track. To mount in a square position, use the built-in hardware on the back of the device to install it directly to the ceiling track. For the diagonal position, first attach the diagonal mount bracket to the ceiling track and then install the AP230 to the diagonal bracket in the same manner as you would attach it to the track directly for the square position. Both methods are explained below. Figure 3 shows an AP in both diagonal mount and square mount positions on a standard dropped ceiling track. Installation steps for both methods follow the illustration.

Figure 3 Ceiling mount options for the AP230



Square Ceiling Mount

Use the mounting tabs and clips that are built into the back of the AP230 to attach it to a standard 15/16"-wide track (2.38 cm) or a 9/16" (1.34 cm) track in a dropped ceiling, The tabs slip over the edge of the ceiling track and the clips click into place to secure the device.

You can also mount these devices to non-standard (recessed) dropped ceiling tracks using the diagonal mount bracket that ships with the device.

Use the following steps and refer to Figure 3 to mount the AP230 in a square position on a dropped ceiling track.

4. Hold the device upside down and slip the mounting clips on the bottom of the device over the edges of the ceiling track.
5. Press the device gently against the ceiling track and rotate it until the mount clips click into place.

Diagonal Ceiling Mount

To mount the AP230 to a track in a dropped ceiling in the diagonal position you must first attach the diagonal bracket to the ceiling track. You may need to drill a small hole in the adjacent ceiling tile to accommodate the cables.

Use the following steps and Figure 3 on page 11 to install the AP in a diagonally on a dropped ceiling track.

1. Install the diagonal clip onto the track. Slip one edge of the clip over the track and rotate the clip until it clicks into place on the track. You can slide the bracket along the track for positioning.
2. Hold the device upside down and slip the mount clips over the edges of the diagonal mount bracket.
3. Press the device gently against the bracket and rotate it until the mount clips click into place.

To remove the device, press the clips toward the device until they disengage from the track, then rotate the device gently and pull it away from the track.

Locking the AP230

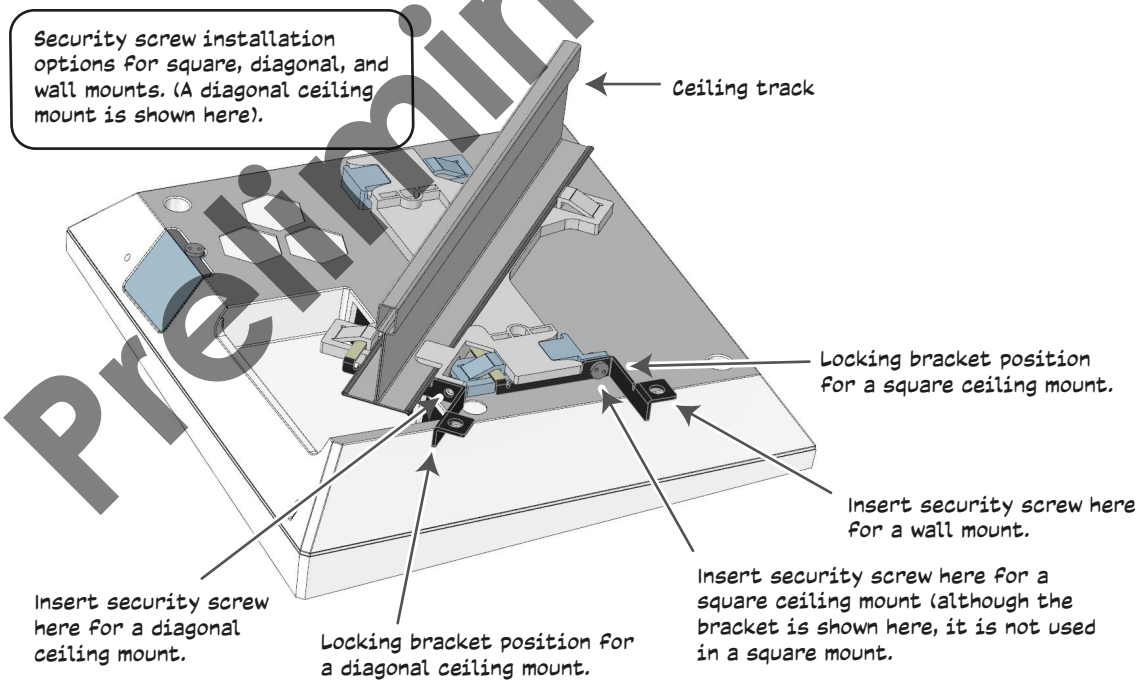
You can secure the AP using a Kensington lock, or you can use the security bracket and security screw that ships with the device to secure it to a ceiling track or to a wall.

To lock the AP to the ceiling track or the wall, use either the slotted screw or the security screw, both of which are included in the mounting kit. If you use the security screw, you will need a drilled spanner insert bit for size #6 security screws and a screw driver that will accept the bit. The correct bits are available from Aerohive in sets of three (AH-ACC-SEC-BIT-330-AP350-3PK). If you use the slotted screw, you can install it with a standard flat-blade screwdriver or driver bit.

Use the following steps to secure a device for all mounting positions:

1. Once the device is mounted on the wall, or attached to the ceiling track, install the security bracket in the appropriate position as shown below.
2. Install the security screw or a slotted screw into the security hole and tighten with the appropriate tool.

Figure 4 Security screw mounting options



Aerohive recommends a variety of Kensington locks. For more information, contact your sales representative.

Optional Accessories

Aerohive offers a variety of optional accessories for the AP230. Contact your sales representative for more information.

Device, Power, and Environmental Specifications

Understanding the range of specifications for the AP230 is necessary for optimal deployment and device operation. The following specifications describe the physical features and hardware components, the power adapter and PoE (Power over Ethernet) electrical requirements, and the temperature and humidity ranges in which the devices can operate.

Device Specifications

Chassis dimensions:

- 7.75" W x 1.63" H x 7.75" D (197 mm W x 41 mm H x 197 mm D)

Weight

- 13.5 oz (0.42 kg)

Antennas:

- Three internal omnidirectional 802.11b/g/n 2.4 GHz antennas, and three internal omnidirectional 802.11a/n/ac 5 GHz antennas

Console serial port:

- RJ45 (9600 bits per second, 8 data bits, parity: none, 1 stop bit, no flow control

Ethernet port

- Eth0: autosensing 10/100/1000 Base-T/TX Mbps, with IEEE 802.3af-compliant PoE
- Eth1: autosensing 10/100/1000 Base-T/TX Mbps

Power Specifications

AC/DC power adapter:

- Input:100 – 240 VAC
- Output: 12V/2.0A

PoE nominal input voltages: 48 V

RJ45 power input pins: Wires 4, 5, 7, 8 or 1, 2, 3, 6

Environmental Specifications

- Operating temperature: 32 to 104° F (0 to 40° C)
- Storage temperature: -40 to 185° F (-40 to 85° C)
- Relative Humidity: 5 to 95% RH (noncondensing)

AP230 Compliance Statement - Europe

EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- IEC 60950-1:2005+AM1:2009
- Safety of Information Technology Equipment

- EN 62311: 2008 / Article 3(1)(a) and Article 2 2006/95/EC)
- Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz-300 GHz)

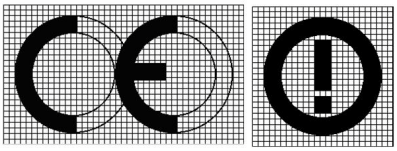
- EN 300 328 V1.8.1: 2012-06
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating using wide band modulation techniques; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

- EN 301 893 V1.7.1: 2012-06
- Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

- EN 301 489-1 V1.9.2: 2011
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

- EN 301 489-17 V2.2.1 2012
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.



cs Česky [Czech]	*[Aerohive]* tímto prohlašuje, že tento *[*AP230*]* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede *[Aerohive]* erklærer herved, at følgende udstyr *[*AP230*]* overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt *[Aerohive]*, dass sich das Gerät *[*AP230*]* in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab *[Aerohive]* seadme *[*AP230*]* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, *[Aerohive]*, declares that this *[*AP230*]* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente *[Aerohive]* declara que el *[*AP230*]* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *[Aerohive]* ΔΗΛΩΝΕΙ ΟΤΙ *[*AP230*]* ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente *[Aerohive]* déclare que l'appareil *[*AP230*]* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente *[Aerohive]* dichiara che questo *[*AP230*]* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *[Aerohive]* deklarē, ka *[*AP230*]* atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *[Aerohive]* deklaruoja, kad šis *[*AP230*]* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart *[Aerohive]* dat het toestel *[*AP230*]* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, *[Aerohive]*, jiddikjara li dan *[*AP230*]* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, *[Aerohive]* nyilatkozom, hogy a *[*AP230*]* megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym *[Aerohive]* oświadcza, że *[*AP230*]* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	*[Aerohive]* declara que este *[*AP230*]* está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	*[Aerohive]* izjavlja, da je ta *[*AP230*]* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak	*[Aerohive]* týmto vyhlasuje, že *[*AP230*]* spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	*[Aerohive]* vakuuttaa täten että *[t*AP230*]* tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/CANADA

Industry Canada Statement:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage, et
2. *l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

Caution:

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Avertissement:

(i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

China Compliance Information

Aerohive AP230

第十二條→經型式認證合格之低功率射頻電機，非經許可，公司，商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條→低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。
前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在 5.25-5.35 秭赫頻帶內操作之無線資訊傳輸設備，限於室內使用。
無線資訊傳設備的製造廠商應確保頻率穩定性，如依製造廠商使用手冊上所述正常操作，發射的信號應維持於操作頻帶中。

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